Multilingual university students' perceived English proficiency, intelligibility and participation

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Abstract

This paper reports on 137 multilingual students enrolled at 14 English-speaking Australian universities who completed a 27-item online survey investigating the relationship between perceived English proficiency, intelligibility, and their academic, social, and vocational participation. Open-ended responses described strategies used to enhance spoken English. Participants came from 44 countries and spoke 49 home languages. Self-ratings of English communication skills were significantly affected by age, English experience, number of languages spoken, and home language. Participants reported spoken English proficiency impacted participation; however, results highlighted lack of awareness of intelligibility as an essential component of spoken language proficiency. Although environmental factors (e.g., more time using English in conversations) were associated with higher self-ratings of proficiency, participants preferred using individual strategies (e.g., listening/repeating) to support English intelligibility rather than social interactions with native speakers. The results demonstrate the importance of conversation practice in language learning to increase proficiency and confidence, as well as participation.

Keywords: multilingual; participation; international students; English proficiency; higher education: Intelligibility Enhancement

Introduction

Spoken English language proficiency impacts multilingual speakers' participation in educational and social activities in English-dominant countries (Blake, Bennetts Kneebone, & McLeod, 2019; Blake, McLeod, Verdon, & Fuller, 2018; Chiswick, Lee, & Miller, 2006). A vital component of spoken language proficiency is intelligibility, which is a measure of how much of an individual's speech is understood by their listener (Munro & Derwing, 2015). Intelligibility is of particular importance for multilingual international students because of their need to express complex ideas and pronounce technical terminology in an additional language. This study investigated multilingual university students' perceptions of the impact of their proficiency and intelligibility in English on their participation, not only at university, but also in an English-dominant society.

International students

The top three international higher education providers in the world are English-dominant countries (US, UK, and Australia); however, non-English-dominant countries, including China and India are seeking to increase their market share (Training Council for International Education, 2016). Australia is a popular destination for international students and international education is important to the Australian economy. In January 2016, almost a quarter (n = 303,072, 24.3%) of students enrolled in Australian higher education institutions were from other countries, an increase of 6.6% on the previous year (Department of Education and Training (DET), 2017a). In 2015, international education contributed an estimated $17.1 billion to Australia's Gross Domestic Product and supported 130,700 full-time equivalent employees (Deloitte Access Economics, 2016). When graduates remain in Australia post-graduation to work, they may enhance workforce skills and productivity as well as contribute socially and culturally to Australian society (Deloitte Access Economics, 2016).

The majority (93%) of international students chose Australia as a study destination because of the reputation of Australian educational institutions, the quality of teaching and research, and for personal safety (DET, 2015). While most tertiary respondents surveyed reported being satisfied with their learning and living experiences, areas of dissatisfaction included local orientation, earning money, and making friends with Australians (DET, 2015). Although reasons for dissatisfaction were not investigated in the survey, English language difficulties may have contributed.

Spoken English skills have been identified as barriers to making friends and interacting with native speakers (Blake, Verdon, & McLeod, 2019; Choi, 1997). Major challenges faced by international students in Australia include English language skills, social isolation, culture shock, and unmet expectations (Choi, 1997; Gatwiri, 2015; Khawaja & Stallman, 2011; Ward, Masgoret, & Gezentsvey, 2009). In a survey of 385 Asian-born international students, Mak, Bodycott, and Ramburuth (2015) found self-efficacy (belief and confidence in one's own ability) in academic skills and perceived social support from others in the host country to be more important predictors of satisfaction with university life than English proficiency. Participants reported high levels of self-efficacy in their academic abilities; however, lower levels of confidence in their ability to interact effectively with Australians (Mak et al., 2015). International students expect and desire interaction with people from the host country in social as well as academic settings (Choi, 1997). Mak, Bodycott, and Ramburuth (2015) recommended further study into the domains of the international student experience, including sources of social support.

English language learning

Recently, the largest number of international higher education enrolments in Australia have been from countries where English is not the dominant language, the top five of which were China, India, Malaysia, Nepal, and Vietnam (DET, 2017b). Historically, Australian

universities have expressed concerns over the English proficiency of international students (Benzie, 2010; Birrell, 2006; Devos, 2003). Strategies suggested for addressing low proficiency include raising English entry requirements and providing pathways courses (Benzie, 2010). English entry requirements are determined by measures such as the International English Language Testing System (IELTS), an internationally recognised language proficiency test for people wishing to study or work in English-speaking environments. IELTS is used by the Australian Government to assess the English proficiency of applicants whose home language is not English for both permanent residency and study visas (O'Loughlin, 2008). The test has four sections: Reading, Writing, Listening, and Speaking and results are scored on a scale from 1 (non-user) to 9 (expert user) (IELTS, 2017). An overall band score between 6.0 and 7.0 in the Academic module is considered to be acceptable English proficiency for higher education worldwide; however, some programs may have higher prerequisites (O'Loughlin, 2008). Raising English entry requirements may not effectively improve outcomes, as scores in tests like IELTS reflect English proficiency only, rather than academic success (Benzie, 2010) or intelligibility of spoken English.

Pathway courses to higher education, such as English Language Intensive Courses for Overseas Students (ELICOS) combine intensive English language training with the development of academic skills. In 2014, 34% of students on student visas in Australia completed ELICOS and went on to higher education, including 64% of Chinese and 42% of Indian students; however, 90% of international postgraduate students did not undertake any English language study in Australia prior to enrolment (DET, 2016). Further investigation is warranted into why so few postgraduate students study English in Australia prior to enrolment.

Traditionally, English language learning has focussed on grammar and vocabulary with minimal attention on perception (identification and discrimination) and pronunciation of

the sounds (consonants and vowels) or prosody (rate, stress, and intonation) and how these features differ to features in the speaker's home language (Levis, 2005; Munro & Derwing, 2015; Sawir, 2005). Multilingual speakers report being unaware of differences between their speech and a native speaker's and unaware of reduced intelligibility in English until told so by a native English speaker (Blake, Verdon, & McLeod, 2019). In a study of multilingual university students and faculty, 81.7% of participants reported being taught English by a non-native English speaker in their home country with minimal focus on pronunciation (Blake & McLeod, 2019b). Some language teachers report they are reluctant to teach pronunciation, due to concerns about loss of identity associated with accent, and lack of empirical evidence and direction for this aspect of language learning (Couper, 2006; Derwing & Munro, 2015; McCrocklin & Link, 2016). Consequently, multilingual speakers may find that even after years of language study, they are less proficient in spoken English than in written vocabulary and grammar and that their reduced proficiency and intelligibility in spoken English may impact on their participation in academic, social, and vocational life.

In seeking to promote Australia as a global higher education provider, the Australian Government has developed the first National Strategy for International Education 2025 (Training Council for International Education, 2016). One of the measures of success of the strategy is the quality of the international student experience. Strategy goals include providing support to international students to facilitate participation in academic, social, and vocational activities as well as listening to international students to ensure their needs are met (Training Council for International Education, 2016). The current study supports the Government's strategy by examining the international student experience with a focus on their English language proficiency and intelligibility.

Aims

This paper surveyed multilingual university students to investigate the relationship between their perceived English proficiency and their academic, social, and vocational participation from the unique perspective of their intelligibility in spoken English. Specifically, the aim of this research was to:

1) Describe participants' self-reported English proficiency (i.e., understanding, speaking, reading, and writing), as well as their levels of confidence and difficulty communicating in English.
2) Investigate the association between participants' perceived English skills and personal and environmental factors (e.g., home language, age, and gender).
3) Explore whether participants' spoken English impacted on their participation in academic, social, and vocational activities in Australia.
4) Detail strategies participants used to support their spoken English.

Method

This study was informed by the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (Eysenback, 2004). Similar to other reporting guidelines, such as the Consolidated Standards of Reporting Trials (CONSORT) Statement (for randomized trials) or the Single Case Reporting guideline In BEhavioural interventions (SCRIBE) statement (for single case experiential designs), the CHERRIES aims to improve reporting of research methodology. Adherence to the checklist assists authors in describing online survey methodology with completeness, accuracy, and transparency allowing peer reviewers and readers to gain a better understanding of the sample selection consequently, increasing the usefulness of such reports (Eysenback, 2004).

Participants

Multilingual university students were recruited through international offices, student services and graduate offices at universities throughout Australia. Universities were asked to forward an introductory email and survey link to their international students. The introductory email explained that the survey targeted those multilingual students who did not speak English as their home language. Consenting participants completed the survey using Survey Monkey©. The survey received 145 responses from 14 universities, predominantly from research higher degree students. Eight incomplete entries were excluded from analysis. The 14 universities and the distribution of students among them have not been reported in order to maintain participant confidentiality, especially in consideration of those participants whose home languages were less common.

The 137 participants were aged between 20 and 60 years (M = 32.97 years; SD = 8.34), with 41.0 % being male (n = 55) and 59.0% female (n = 79). Participants came from 44 different countries and spoke 49 home languages (Table 1). The top three countries of birth were Vietnam (n = 19, 14.2%), Iran (n = 9, 6.7%), and Germany (n = 7, 5.2%) and the three most common home languages were Vietnamese (n = 19, 14.4%), German (n = 11, 8.3%), and Persian (n = 8, 6.1%). Participants who reported their home language as English reported they were speakers of World Englishes including Singaporean English and Malaysian English. Most participants (n = 106, 79.7%) had been in Australia for less than five years, with 28.6% (n = 38) arriving within the last year. All participants spoke English and their home language; however, 65.0% (n = 89) reported speaking three or more languages.

Participants were enrolled at 14 Australian universities in PhD (n = 115, 83.9%), Masters (n = 8, 5.8%), Bachelors (n = 10, 7.3%), and Study Abroad programs (n = 1, 0.7%), or were conducting post-doctoral research (n = 1, 0.7%). The five most common areas of

study were health (n = 32, 23.7%), arts/law (n = 21, 15.6%), science (n = 18, 13.3%), education (n = 16, 11.9%), and engineering (n = 15, 11.1%).

Most participants reported first learning English at school (age: M = 11.14 years; SD = 7.23); however, they reported not using English in conversations until years later (age: M = 18.74 years; SD = 8.49). Many participants (n = 90, 69.2%) had not studied English since arriving in Australia either because they believed their English was already good (n = 78, 60%), or for additional reasons (n = 12, 9.2%) such as ‘didn't feel any necessity’, ‘don't have money’, and ‘learning English while using it in my research’. A further 16.2% (n = 21) had studied English since arriving in Australia, but were no longer studying, and 14.6% (n = 19) were currently studying English.

Table 1. Participants' home languages (n = 137)

Home language group [a]	*n*	Home languages
Northern European	28	English, German, Danish, Afrikaans, Swedish, Dutch, Norwegian, Flemish
Southern European	18	French, Spanish, Portuguese, Italian, Catalan, Greek
Eastern European	7	Hungarian, Russian, Romanian, Serbo-Croatian, Croatian
Southwest and Central Asian	12	Arabic, Persian, Turkish, Hebrew
Southern Asian	21	Bengali, Malayalam, Dinka, Hindi, Sinhalese, Urdu, Tamil, Nepali, Marathi
Southeast Asian	30	Vietnamese, Sundanese, Thai, Bahasa Indonesia, Malay, Filipino
Eastern Asian	14	Mandarin, Cantonese, Korean, Dzongkha
African	6	iKalanga, Akan, Oromo, Ankole, Amharic, Kambatigna
Australian Indigenous	1	Torres Strait Creole

[a] Australian Standard Classification of Languages (Australian Bureau of Statistics, 2016)

Ethical Approval

Ethical approval was obtained from Charles Sturt University Human Research Ethics Committee (protocol number 2016/039) and The University of Newcastle Human Research Ethics Committee (approval number H-2016-0096).

Instrument

A survey was created by the authors specifically for this study using the International Classification of Functioning, Disability and Health (ICF) (World Health Organization, WHO, 2001) as the conceptual framework. This multi-dimensional framework was used to investigate interactions between Body Functions and Structures (e.g., articulation of speech

sounds), Personal Factors (e.g., age), and Environmental Factors (e.g., attitudes of society) and any restrictions these may place on an individual's Activities and Participation (Blake & McLeod, 2018; WHO, 2001).

The online survey contained 27 questions (see Supplementary Appendix) under four headings; *About you* (e.g., 'Which country were you born in?'), *About your English skills* (e.g., 'What year did you start studying English?'), *About your spoken English* (e.g., 'Has your spoken English affected your ability to make friends?'), and *About your intelligibility - How easy it is for other people to understand what you say,* (e.g., 'Would you consider getting help to sound clearer and be more intelligible in English?'). Likert-type scales recorded participants' perceptions of their English proficiency and intelligibility, and the effect of spoken English on participation in academic, social, and vocational activities. Questions relating to participation were informed by the Wave 1 survey for Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants with permission (cf. Blake, Bennetts-Kneebone, & McLeod, 2019; Department of Social Services, 2015). Open-ended questions (e.g., 'Who could you ask for help with intelligibility in English?') allowed participants to provide additional information or opinion. Analysis of responses to 25 of the questions are reported here. Analysis of qualitative responses to two of the questions (questions 21 and 27) have been reported elsewhere (Blake, Verdon, & McLeod, 2019).

Content validity for the survey instrument was established by piloting with two multilingual and two native English speakers. Once the online draft was available, four additional multilingual and two native English speakers provided feedback on survey complexity, ease of understanding, and terminology, and adaptions were made to create the final survey. Every effort was made to prevent content bias in the questions asked. The multilingual speakers who checked the survey drafts were postgraduate students from varied language/cultural backgrounds. Additionally, all three authors have many years' experience

working with multilingual speakers and have promoted multilingualism in their research and advocacy roles.

Data analysis

Data analysis was undertaken using IBM SPSS Statistics Version 24.0 (IBM, 2016). Six variables were derived from the data: age, time lived in Australia, length of time studying and using English in conversations, and age began studying English and using English in conversations. To facilitate analysis, age was grouped into four bins (under 24.6 years, 24.6 - 33 years, 33 - 41.3 years and above 41.3 years), and home languages were grouped into nine broad groups according to the Australian Standard Classification of Languages (Australian Bureau of Statistics, 2016) (Table 1). Likert responses relating to participants' reports of spoken English affecting activities were recoded from 5 to 2 points with *never* and *rarely* recoded as *no* and *sometimes, often* and *always* recoded as *yes*.

Data were tested for normality through Kolmogorov-Smirnov and Shapiro-Wilk Tests. As the data were not normally distributed, the following non-parametric tests were used to explore relationships between variables: Mann Whitney-U Test, Kruskal-Wallis Test, Wilcoxon Signed Rank Test, Chi-square test for independence, and Spearman rho. Effect sizes were interpreted following Cohen's (1988) guidelines: small (r = .10 to .29), medium (r = .30 to .49), and large (r = .50 to 1.0) effects. Participants' responses to the following two open-ended questions were analysed and coded into common themes relating to each question using NVivo software (QSR International, 2015):

1. 'What do you do to make it easier to pronounce the sounds of English?'
2. 'Who could you ask for help with intelligibility in English?'

Results

Self-reported English proficiency

Participants rated their English proficiency across the four domains of understanding, speaking, reading, and writing both before arriving in Australia and currently, and in general, ratings were high and improved significantly over time (Table 2). Wilcoxon Signed Rank Tests revealed statistically significant increases over time with medium effect sizes in understanding spoken English (z = -4.99, p = .000, r = .31), speaking English (z = -5.91, p = .000, r = .36), reading English (z = -4.59, p = .000, r = .28), and writing English (z = -5.32, p = .000, r = .32). More participants rated themselves as highly proficient in receptive (understanding and reading) than expressive English (speaking and writing). Ratings for speaking English were significantly lower than for understanding spoken English (z = -2.69, p = .01, r = .17) and there were significantly lower ratings for writing English than for reading English (z = -3.65, p = .00, r = .23); both with small effect sizes.

Table 2. Participants' reported English proficiency before arrival in Australia compared to current proficiency (n = 137)

	Understanding				Speaking				Reading				Writing			
Proficiency	Before arrival		Currently		Before arrival		Currently		Before arrival		Currently		Before arrival		Currently	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Very well	60	45.8	86	65.2	42	31.8	72	54.5	67	50.8	91	69.5	46	34.8	73	55.7
Well	50	38.2	42	31.8	61	46.2	55	41.7	54	40.9	40	30.5	64	48.5	56	42.7
Not well	14	10.7	4	3.0	22	16.7	5	3.8	5	3.8	0	0.0	16	12.1	2	1.5
Not at all	7	5.3	0	0.0	7	5.3	0	0.0	6	4.5	0	0.0	6	4.5	0	0.0
Total	131	100.0	132	100.0	132	100.0	132	100.0	132	100.0	131	100.0	132	100.0	131	100.0

Self-ratings of English proficiency were analysed by the personal and environmental factors of age group, gender, English experience, number of languages spoken, and home language group (Table 3). Each of these is discussed below.

Table 3. Self-rated English proficiency compared to personal and environmental factors (n = 137)

English proficiency	Age group [b]		Years studied English [d]		Years conversed in English [d]		Number of languages spoken [c]		Home language group [b]	
	p	χ^2	p	r	p	r	p	z	p	χ^2
Before arrival										
Understand	0.04*	8.4	0.12	-0.14	0.01*	-0.23	0.00*	-4.09	0.01*	19.72
Speak	0.39	3.01	0.25	-0.1	0.03*	-0.19	0.00*	-3.59	0.01*	20.23
Read	0.13	5.65	0.78	-0.03	0.28	-0.09	0.00*	-3.46	0.01*	20.67
Write	0.39	2.99	0.47	-0.06	0.31	-0.09	0.01*	-2.63	0.06	14.98
Currently										
Understand	0.31	3.59	0.05*	-0.17	0.01*	-0.25	0.00*	-3.96	0.00*	29.61
Speak	0.45	2.63	0.00*	-0.26	0.00*	-0.4	0.00*	-4.99	0.00*	39.78
Read	0.11	6.15	0.02*	-0.21	0.01*	-0.23	0.00*	-3.15	0.01*	21.01
Write	0.75	1.2	0.02*	-0.21	0.01*	-0.23	0.01*	-2.55	0.01*	20.52

*p < / = .05

[b] Kruskal-Wallis Test

[c] Mann-Whitney U Test

[d] Spearman rho

Age

Kruskal-Wallis Tests revealed a significant difference only in self-reported ability to understand spoken English before coming to Australia across age groups ($H(3) = 8.4$, $p = .04$, $\eta^2 = .07$. The youngest age group (≤28 years) recorded a higher median score than all other groups. There was no significant difference according to age across all other English proficiency domains (speaking, reading, writing) both before arrival in Australia and currently.

Gender

There was no significant difference in self-ratings of proficiency by gender.

English experience

The relationship between self-rated English proficiency and the number of years participants had spent studying English and using English in conversations were investigated using Spearman's rho. There were small correlations between years of studying English and current proficiency in speaking ($r = -.26$, $n = 132$, $p = .00$), reading ($r = -.21$, $n = 131$, $p = .02$), and writing ($r = -.21$, $n = 131$, $p = .02$), with more time studying English associated with higher self-ratings. There was no correlation between years of studying English and proficiency ratings of current understanding of English and all domains of English prior to arrival in Australia.

There was a medium correlation between current self-ratings of spoken English and years participants had used English in conversations ($r = -.40$, $n = 131$, $p = .00$), with more time conversing in English associated with higher self-ratings. There were small correlations between years participants had used English in conversations and current proficiency in understanding ($r = -.25$, $n = 131$, $p = .01$), reading ($r = -.23$, $n = 130$, $p = .01$), and writing ($r = -.23$, $n = 130$, $p = .01$), as well as understanding ($r = -.23$, $n = 130$, $p = .01$), and speaking ($r = -.19$, $n = 131$, $p = .03$), prior to arrival in Australia with more time conversing in English

associated with higher self-ratings. There was no correlation between years of using English in conversation and reading or writing English prior to arrival in Australia.

Number of languages spoken

The number of languages spoken by participants varied across home language groups with 75.0% of speakers of Northern European languages speaking three or more languages, along with 72.2% of Southern European, 71.4% of Eastern European, 66.7% of African, 61.9% of Southern Asian, 45.5% of Southwest and Central Asian, 35.7% of Eastern Asian, and 27.6% of Southeast Asian languages. Participants who spoke three or more languages rated their ability to understand, speak, read, and write English higher than participants with two languages. For example, a Mann-Whitney U Test revealed a significant difference in ability to currently speak English between those who spoke three or more languages (Md = 2.0, n = 73), and speakers of two languages (Md = 1.0, n = 59), U = 1200, z = - 4.99, p = .00, r = .43. Similar results were found across domains of understanding, reading, and writing English both before arrival in Australia and currently.

Home language

Kruskal-Wallis Tests revealed significant differences across home language groups for all English proficiency domains both before arrival in Australia and currently, except writing before coming to Australia. For example, there was a significant difference in self-reported ability to currently speak English across all home language groups (H(8) = 39.78, p = .00, η^2 = .31 with speakers of Southwest and Central Asian Languages (e.g. Persian) and Southeast Asian Languages (e.g., Vietnamese) recording lower median scores than the other seven groups. These two language groups also recorded lower scores for currently understanding spoken English, reading, and writing.

Difficulty and confidence communicating in English

Participants rated their level of difficulty communicating in English on a 5-point single item Likert scale as *slight* (*n* = 81, 66.9%), *some* (*n* = 31, 25.6%), *moderate* (*n* = 8, 6.6%), *significant* (*n* = 1, 0.8%), or *extreme* (*n* = 0, 0%). Participants rated their level of confidence communicating in English on a 5-point single item Likert scale as *not confident* (*n* = 1, 0.8%), *slightly confident* (*n* = 2, 1.5%), *moderately confident* (*n* = 23, 17.4%), *confident* (*n* = 69, 52.3%), or *extremely confident* (*n* = 37, 28.0%). Self-ratings of difficulty and confidence communicating in English were analysed by the personal and environmental factors of age group, gender, English experience, number of languages spoken, and home language group and in general, results were similar to English proficiency. While no significant relationship was found between age and gender, factors with significant findings are discussed below.

English experience

The relationship between confidence and difficulty communicating in English and the number of years participants had spent studying and using English in conversations were investigated using Spearman's rho. There was a small correlation between confidence and the years participants had studied English (r = -26, n = 132, p = .00), with less time studying English associated with lower levels of confidence. There was a medium correlation between confidence and the years participants had used English in conversations (r = -.41, n = 131, p = .00), with more time conversing in English associated with higher levels of confidence. There was no correlation between difficulty communicating in English and the years participants had studied English (r = -.15, n = 121, p = .10); however, there was a small correlation between difficulty communicating and the years participants had used English in conversations (r = -.27, n = 120, p = .00), with less time conversing in English associated with higher levels of difficulty.

Number of languages spoken

Participants who spoke three or more languages reported greater confidence and less difficulty communicating in English than participants with two languages. Mann-Whitney U Tests revealed significant differences in confidence between speakers of three or more languages (*Md* = 2.0, *n* = 73) and those who spoke two languages (*Md* = 2.0, *n* = 59),*U* = 1610.5, *z* = -2.73, *p* = .01, *r* = .24 as well as for self-ratings of difficulty communicating between speakers of three or more languages (*Md* = 1.0, *n* = 67) and those who spoke two languages (*Md* = 1.0, *n* = 54), *U* = 1440.5, *z* = - 2.33, *p* = .02, *r* = .21.

Home language

Kruskal-Wallis Tests revealed significant differences in self-reported levels of confidence (H(8) = 28.08, *p* = .00, η^2 = 0.5 and difficulty (H(8) = 16.73, *p* = .03, η^2 = 0.14 communicating in English across all nine language groups, with speakers of Southeast Asian Languages reporting the lowest levels of confidence and high levels of difficulty communicating.

Spoken English and participation

Participants reported whether their spoken English proficiency affected their ability to participate in a range of activities that facilitated academic, social, and vocational life (Table 4). When participation ratings were compared to self-ratings of spoken English, Mann-Whitney U Tests revealed significant differences for all activities, with participants with lower spoken English proficiency reporting a greater impact on participation. For example, there was a significant difference in self-ratings of ability to speak English between participants who reported their spoken English proficiency affected their ability to make friends (*Md* = 2.0, *n* = 43) and those who reported it did not (*Md* = 1.0, *n* = 88), *U* = 827.0, *z* = - 5.96, *p* = .00, *r* = .52 (Table 4).

Table 4. Participants' reports of spoken English affecting activities compared to self-rated spoken English proficiency and personal and environmental factors (n = 137)

	N	Affected		Self-rated spoken English proficiency [c]			Number of languages spoken [e]			Asian home language groups [e]			Time lived in Australia [c]		
		n	%	*p*	*z*	*r*	*p*	χ^2	*V*	*p*	χ^2	*V*	*p*	*z*	*r*
Understand Australian ways	131	62	47.3	0.00*	-4.61	0.4	0.05*	3.85	0.19	0.81	0.96		0.99	-0.02	
Talk on the phone	130	51	39.2	0.00*	-5.73	0.5	0.12	2.47		0.12	5.93		0.01*	-2.66	0.24
Make friends	131	43	32.8	0.00*	-5.96	0.52	0.12	2.39		0.02*	10.27	0.38	0.35	-0.93	
Look for a job	127	40	31.5	0.00*	-4.6	0.41	0.00*	8.4	0.27	0.72	1.36		0.7	-0.39	
Talk to Australian neighbours	131	38	29	0.00*	-5.58	0.49	0.00*	16.15	0.37	0.03*	9.11	0.36	0.2	-1.27	
Use voice activated software, e.g., Siri	128	36	28.1	0.03*	-2.22	0.2	0.39	0.75		0.23	4.27		0.91	-0.12	

Give presentations at university or conferences	131	35	26.7	0.00*	-5.33	0.47	0.06	3.53	0.1	6.24	0.19	-1.31
Participate in academic activities	131	31	23.7	0.00*	-4.36	0.38	0.29	1.1	0.54	2.19	0.35	-0.93

*p < / = .05

[c] Mann-Whitney U Test

[e] Chi-square

Participants' responses were also analysed by the personal and environmental factors of age, gender, number of languages spoken, home language group (only four Asian home language groups were analysed because other groups failed to meet the sample size criteria to run the test), and time lived in Australia. Each of these is discussed below.

There were significant associations between the number of languages spoken and whether spoken English affected participants' ability to participate in activities, with 38.9% of speakers of three or more languages and 57.6% of speakers of two languages reporting it affected their ability to understand Australian ways χ^2 (1, n = 131) = 3.85, p = .05, V = .19, 13.9% of speakers of three or more languages and 47.5% of speakers of two languages reporting it affected talking to Australian neighbours χ^2 (1, n = 131) = 16.15, p = .00, V = .37, and 20.0% of speakers of three or more languages and 45.6% of speakers of two languages reporting it affected their ability to look for a job χ^2 (1, n = 127) = 8.40, p = .00, V = .27.

Chi-square tests for independence indicated significant associations between the four Asian home language groups and whether spoken English affected making friends χ^2 (3, n = 72) = 10.27, p = .02, V = .38 and talking to Australian neighbours χ^2 (3, n = 72) = 9.11, p = .03, V = .36 with over 50% of speakers of Southwest and Central Asian Languages and Southeast Asian Languages reporting that it did.

A Mann-Whitney U Test revealed a significant difference in time lived in Australia and whether spoken English affected talking on the phone (Md = 1, n = 51) or not (Md = 2, n = 75), U = 1387, z = -2.66, p = .01, r = .24 with participants who had lived in Australia for a longer time reporting less effect.

There were no other significant differences in ratings by home language group, number of languages spoken, or time lived in Australia across all other activities. There was no significant difference in ratings by gender or age across all activities.

Intelligibility in English

Participants rated how much intelligibility affected their ability to communicate in English and 39.1% (n = 50) reported it had no impact. A Kruskal-Wallis Test revealed significant differences in spoken English proficiency ($H(4) = 32.58$, $p = .00$, $\eta^2 = 0.26$ and how much participants believed their intelligibility affected their ability to communicate with lower proficiency associated with increased effects.

Participants provided open-ended responses regarding what they did to make it easier to pronounce the sounds of English. Responses were collated into two themes: Individual and Interactive Activities (Table 5). Subthemes that emerged under Individual Activities included: practise, use technology, listen, imitate native speakers, repeat, nothing, oro-musculature exercises, and slow speech rate. Subthemes that emerged under Interactive Activities included: ask native speakers for help, engage in conversations with native speakers, ask native speakers for corrections, attend English classes, and attend intelligibility enhancement sessions.

Table 5. Strategies participants used to make it easier to pronounce the sounds of English (*n* = 79)

Themes	*n*	Sub-themes
Individual Activities	39	Practise sounds
(*n* = 79)	11	Use technology (YouTube, e-dictionary)
	10	Listen to native speakers
	8	Imitate native speakers
	4	Repeat sounds
	4	Nothing
	2	Tongue exercises
	1	Reduce speech rate
Interactive Activities	6	Ask native speakers for help
(*n* = 16)	5	Engage in conversations with native speakers
	2	Ask native speakers for corrections
	2	Attend English classes
	1	Attend intelligibility enhancement sessions

Almost half (*n* = 60, 46.9%) of participants reported they would consider getting help for intelligibility in English, while 7.8% (*n* = 10) had already done so. Participants reported approaching friends (*n* = 41, 43.2%), academic staff (*n* = 23, 24.2%), native speakers (*n* = 7, 7.4%), and speech-language pathologists (*n* = 7, 7.4%) for help; while, some (*n* = 7, 7.4%) did not know who they could ask.

Discussion

This paper described a survey of multilingual university students that investigated the association between perceived proficiency and intelligibility in English and academic, social,

and vocational participation. Two key messages were identified that are essential for supporting multilingual university students in Australia: (1) multilingual speakers lack awareness of intelligibility as an essential element of spoken language proficiency and (2) conversation practice should be an important component in English language learning as more time using English in conversations was associated with higher self-ratings of proficiency, higher confidence, and less difficulty communicating in English.

English communication skills

Participants were asked to self-report their English communication skills (i.e., understanding, speaking, reading, and writing), as well as their levels of confidence and difficulty communicating in English in order for these self-ratings to be analysed by the personal and environmental factors of age group, gender, English experience, number of languages spoken, and home language group to determine any associations or implications.

Self-reported English proficiency

Participants' self-ratings of their proficiency understanding, speaking, reading, and writing English were generally high and indicated that their communication skills in English had improved significantly since arriving in Australia. Self-ratings of confidence communicating in English were also high and ratings of level of difficulty communicating in English were conversely, generally low.

English proficiency and personal and environmental factors

Self-ratings of English communication skills were significantly affected by age, English experience, the number of languages spoken, and home language. Participants who were 28 years of age and younger reported higher proficiency in understanding spoken English before coming to Australia than all other age groups. More time studying English and using it in conversations was associated with higher ratings of spoken English proficiency. Participants who spoke three or more languages rated their ability to understand, speak, read,

and write English higher than participants with two languages. Speakers of Southwest and Central Asian Languages (e.g., Persian) and Southeast Asian Languages (e.g., Vietnamese) self-rated as less proficient than all other language groups.

Differences in perceived English proficiency across home language groups were found to be a result of or a combination of many factors including: language distance, a consequence of less experience studying and conversing in English, sampling bias, and/or a reflection of cultural differences in self-efficacy, self-perceptions, and reporting. Comparisons of self-assessment measures for language proficiency and formal assessment results indicated accuracy of self-ratings can be affected by cultural background (Edele, Seuring, Kristen, & Stanat, 2015). Speakers of more than two languages rated their English proficiency and confidence higher, suggesting that the additional language learning supported their English competency. There were more speakers of European and African languages who spoke three or more languages than speakers of Asian languages. Participants who self-rated as less proficient in English included those from Australia's top eight source countries for international higher education students: Malaysia (third) Vietnam (fifth), and Indonesia (eighth) (DET, 2017b). These students may require extra support while studying in English-dominant countries like Australia.

Participation

Self-ratings of the impact of spoken English proficiency on participation were significantly affected by home language, number of languages spoken, time lived in Australia, and perceived spoken English proficiency. Participants reported spoken English proficiency impacted more on social, rather than academic participation with understanding Australian ways, talking on the phone, and making friends the most frequently reported activities affected. Multilingual students' focus on social participation reflected similar concerns discussed in the literature (Blake, Verdon, & McLeod, 2019; DET, 2015; Gatwiri,

2015; Khawaja & Stallman, 2011). International students frequently report experiencing loneliness and social isolation related to difficulties developing friendships with native-speaking students (Khawaja & Stallman, 2011). These findings highlight the importance of social participation to the international student experience, proving that support for social activities is warranted in accordance with the National Strategy for International Education 2025 (Training Council for International Education, 2016).

Strategies to support spoken English

Although more time using English in conversations was associated with better English proficiency outcomes, multilingual university students largely used individual strategies (e.g., listening and repeating) to support their English intelligibility rather than interacting with native speakers to gain informal (e.g., conversations) or formal experience (e.g., intelligibility enhancement sessions).

English in conversations

More time using English in conversations was equated with higher self-ratings of English proficiency and increased confidence communicating in English. This finding highlights the importance of conversation practice in language learning. Most participants did not begin conversing in English until more than seven years after commencing language study, possibly due to traditional language learning approaches focusing on vocabulary and grammar (Levis, 2005; Munro & Derwing, 2015; Sawir, 2005). The delay between learning and conversing in English may also partially account for participants' higher proficiency ratings in receptive (understanding and listening) than expressive English (speaking and reading). Opportunities for conversing in English may also be restricted by multilingual speakers' shyness and perceptions of negative attitudes of native speakers, as well as their study and family commitments (Blake, Verdon, & McLeod, 2019). Khawaja and Stallman (2011) recommended multilingual university students get out of their comfort zone (i.e.,

socialising with students with the same home language) to establish social networks with native speakers and practise social skills in order to increase opportunities to converse in English.

Intelligibility enhancement

The study investigated multilingual students' perceptions of the impact of their English proficiency on participation from the unique perspective of their intelligibility in spoken English. However, over a third of participants reported intelligibility had no impact on their ability to communicate in English. This result is consistent with the low self-awareness of intelligibility found in a qualitative study of multilingual university students (Blake, Verdon, & McLeod, 2019). Additionally, once some students pass the IELTS, they may think they have no need to improve their English skills (O'Loughlin, 2008). Almost 70% of participants had not studied English since arriving in Australia, consistent with previous studies (DET, 2016).

Almost half of participants reported that they would consider seeking help for their English intelligibility even though some (7.4%) did not know who to ask for help. There are many professionals that can provide support for intelligibility, such as speech-language pathologists, language teachers, linguists, and elocution, acting or voice coaches (Blake & McLeod, 2019a); however, few higher education institutions have adopted this method of support (Khurana & Huang, 2013). Intelligibility enhancement by speech-language pathologists provides multilingual speakers with awareness of differences between their speech and a native speaker's, uses massed practice with specific feedback, assists speakers to modify their speech to facilitate effective, intelligible communication, and has an emerging evidence base (Blake & McLeod, 2019a). Aside from enhancing the English speech of multilingual speakers, intelligibility enhancement can provide training in conversation breakdown and repair strategies that can promote confidence communicating, as well as

make it easier for conversation partners to understand what is being said (Blake & McLeod, 2019a). However, multilingual speakers are not solely responsible for the success of a communication interaction (Clyne, 2008). Native English-speaking conversation partners may benefit from specific training in linguistics that can improve their confidence to interact with multilingual speakers (Carlson & McHenry, 2006). Such training for people working with multilingual students can focus on listening to a variety of accents as well as learning conversation breakdown and repair strategies.

Implications

The findings of this study highlight important implications from the students' perspectives that can inform higher education providers in English-dominant countries such as Australia, the US, Canada, and the UK as well as others who support multilingual university students. International education is an expanding market; therefore, higher education providers worldwide need to review existing services supporting multilingual students and explore new ways of providing institutional support for key issues facing these students (Smith & Khawaja, 2011). Many universities have existing support programs focusing on practical and academic concerns such as learning support programs that provide English language assistance and academic writing courses; however, not all students who are in need of such help attend (Smith & Khawaja, 2011). Students from some cultures are less likely to seek professional support (Khawaja & Dempsey, 2008). Several factors were identified in this study that may predict students at risk of lower perceived confidence and competence communicating in English that could impact on their student experience: students with less experience studying and conversing in English, speakers of only two languages, and speakers of Southwest and Central Asian or Southeast Asian home languages. International programs can use this information to identify and target potential students who may need further support, whether that involves English writing skills or Intelligibility

Enhancement. In light of the key findings of this study, university support programs for multilingual students need to include conversation practice as an important component of English language learning and provide opportunities for students to not only engage in conversations, but also to increase their awareness of intelligibility as an essential element of their spoken English communication skills.

While the Australian Government's National Strategy for International Education 2025 (Training Council for International Education, 2016) aims to listen to students to facilitate their participation in academic, social, and vocational activities, the multilingual university students in this study appeared predominantly concerned with the social impact of their spoken English. Multilingual students may need to deal with social and cultural barriers as well as language barriers. Students need support in reducing barriers and increasing facilitators to their social participation. For example, students could be supported in finding a 'third space' (Elliot, Baumfield, & Reid, 2016) outside of university, such as in a job or club that will provide them with opportunities to establish social connections, improve their spoken English skills, and promote opportunities for conversation practice. Such a space might not only improve their student experience, but could also facilitate a valuable intercultural experience for native English speakers (Elliot et al., 2016).

Strengths and limitations

The size and diversity of the sample and the targeted survey instrument allowed this study to provide evidence on which support services for multilingual university students can be planned and provided. Notwithstanding this, sampling bias may prevent generalisation of the results to a wider population, as only participants interested in their English proficiency may have completed the survey. There were participants representing the five countries with the largest number of international higher education enrolments in Australia: China (n = 6), India (n = 5), Malaysia (n = 4), Nepal (n = 4), and Vietnam (n = 19). However, future

research could target the English proficiency, intelligibility, and participation of multilingual university students from these countries given their significance to the higher education sector in Australia. As noted above, students from some cultures may be less likely to seek professional support (Khawaja & Dempsey, 2008); therefore, it is possible that they may also be less willing to participate in a survey discussing their communication skills in English. It is unclear why there was a higher proportion of PhD students in the sample. This may have been a result of the recruitment process or evidence of increased interest among research higher degree students in their oral English skills. Differences in level of education can impact communication, interaction, and integration (Grech, 2019). The verbal communication demands on higher degree students (e.g., conference presentations) are different to those of undergraduates, who may potentially remain silent in lectures and tutorials.

Self-reported language proficiency ratings are generally not considered an accurate measure of language skills; however, self-ratings by multilingual speakers studying an additional language can be more accurate because of feedback they may receive on language skills (Edele et al., 2015). Future research could include direct assessment of English skills and investigate multilingual students' awareness of English communication support programs provided at their university, any barriers and/or facilitators to their participation in such programs, and the effectiveness of these programs.

Conclusion

The findings of this study provide insight into multilingual university students' perspectives of the impact of their English proficiency and intelligibility on their academic, social, and vocational participation in Australia. Participants reported their spoken English proficiency impacted participation; however, the results highlighted a lack of awareness of intelligibility as an essential component of spoken language proficiency. Social, rather than

academic participation was more commonly reported as being affected by spoken English. Although environmental factors such as more time studying and using English in conversations were associated with higher self-ratings of proficiency and confidence communicating, students reported using individual strategies such as listening and repeating to support their intelligibility in English rather than engaging in social interactions with native speakers. Factors that may predict students at risk of low English communication skills were less experience studying and conversing in English, speaking only two languages, and speaking an Asian home language. The results of this study demonstrate the importance of conversation practice in English language learning not only as a means to develop proficiency and confidence, but also extent of participation. These findings highlight the need for support for multilingual university students wishing to improve their spoken language proficiency in order to increase their participation in the society of their host country.

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